

## **REMARKS**

### **1. Summary of Office Action**

In the Office Action mailed September 29, 2008, the Examiner rejected Claim 1 under 35 U.S.C. § 103(a) as being allegedly obvious over Gillen (US Patent Application Pub. No. 2002/0038550) in view of Yamada et al. (US 6,233,944).

### **2. Status of Claims**

Currently pending are Claims 1-9 of which Claims 1 and 3 are independent, and the remainder of the claims are dependent. Claim 1 is presently amended, and Claims 2-9 are new. Applicant submits that no new subject matter has been added.

### **3. Response to Rejections under 35 U.S.C. § 103(a)**

The Examiner rejected Claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Gillen (U.S. Patent Application Publication No. 2002/0038550) in view of Yamada (U.S. Patent No. 6,233,944).

Applicant has amended Claim 1 to further clarify the claim. Amended Claim 1 concerns a compact thermal exchange device that comprises a planar thermal electric cooling unit having an upper planar side and a lower planar side. The electric cooling unit comprises two planar plates, and each of the planar plates is formed on the upper planar side and the lower planar side of the unit, respectively. Each of a plurality of heat pipes is positioned within a corresponding one of the planar plates, coplanar to the corresponding one of the planar plates. A predetermined portion of each of the plurality of heat pipes extends laterally beyond the corresponding one of the planar plates. A plurality of fins are formed on the predetermined portion of the heat pipe that extends

beyond the corresponding one of the planar plates. Claim 3 recites similar features as Claim 1.

Gillen describes a thermoelectric cooler that attaches a heat sink to the thermoelectric cooling unit. Gillen does not describe a thermal exchange device that uses heat pipes as a mode of heat exchange. More specifically, Gillen does not describe a thermal exchange device comprising a “plurality of heat pipes ... positioned within a corresponding one of the planar plates, coplanar to the corresponding one of the planar plates, wherein a predetermined portion of each of the plurality of heat pipes extends laterally beyond the corresponding one of the planar plates,” as recited in Claim 1.

Yamada does not make up for the deficiency in Gillen. Yamada describes a thermoelectric module that uses a heat pipe to exchange heat. However, Yamada also does not teach the compact configuration recited in Claim 1. Specifically, Yamada does not teach a thermal exchange device comprising a plurality of heat pipes positioned coplanar to the corresponding one of the planar plates and extending laterally beyond the predetermined portion of the corresponding one of the planar plates. In Yamada, the heat pipes extend orthogonally from the confined portion. The configuration in Yamada does not lead to the desired compactness of the thermoelectric unit described by Claim 1. Furthermore, Yamada does not teach a plurality of fins formed radially on the heat pipe, as additionally set forth in Claim 3. In Yamada, the fins on the heat pipe are only shown to extend in one direction.

In light of the above, Applicant respectfully submits that Claims 1 and 3 are allowable and further that Claims 2 and 4-9 are allowable for at least the reason that they depend ultimately from Claims 1 and 3, respectively.

#### **4. Conclusion**

Applicant submits that the application is in good and proper form for allowance and respectfully requests the Examiner to pass this application to issue. Because the independent Claims 1 and 3 are allowable, the dependent claims are allowable for the same reasons.

Respectfully submitted,

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Date: March 2, 2009

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